Louis Schwartz, a lawyer from Brooklyn, has a different concept of celebrity than most people.

While standing in line at a coffee shop, he once chatted up Hugh Jackman, failing to recognize one of the biggest stars in Hollywood (and the winner of People magazine’s 2008 “sexiest man alive” award).

Who does Louis recognize? Theoretical physicist and author Brian Greene, whom he spotted walking through a subway station with his wife one day. Thrilled, Louis ran up to the scientist and began questioning him about string theory.

When Louis wants answers to the many questions he has about science, his favorite place to go isn’t a university or a museum. It’s a dark, cavernous bar called the Bell House on 7th Street in Brooklyn. Once a month, science enthusiasts like Louis pack the place to hear a talk by a scientist and participate in a Q&A session. The event, started eight years ago and run by a jazz musician and a pair of writers, is called the Secret Science Club (SSC), though that’s a bit of a misnomer these days—the club has been publicized in everything from Scientific American to The New York Times, so the secret is definitely out.

Janna Levin, a cosmologist at Barnard College in New York who studies black holes and the size of the universe, gave one of Louis’ favorite SSC talks. “She said that photons have no mass,” Louis told me. “So I asked, ‘How does using light sails to provide propulsion for long-duration interplanetary space flight work, if photons don’t have mass?’” An enlightening discussion about momentum ensued, said Louis.

SSC’s lineup has included such scientific all-stars as Neil deGrasse Tyson and Steven Pinker. Sigma Pi Sigma’s own David Hogg, a cosmologist at New York University, kicked off the 2012 season with a talk about the history of the universe. Becky Ferreira, a reporter for New Scientist, recorded Hogg’s opening remarks as he looked out at the big crowd that had gathered: “Holy [expletive]! I didn’t know science was this cool!”

Science is so cool, in fact, that it is leaking out of academia across the nation and finding its way into bars, clubs, coffee shops, and other places where lay people congregate to be social and have a good time. The Secret Science Club is part of a community of new “science cafés” popping up, projects that connect the public to science in casual settings that often involve snacking on appetizers and sipping mixed drinks.

One of my favorites is PechaKucha. The brainchild of two architects, this event challenges presenters to explain something they are passionate about in 20 slides, with 20 seconds for each slide. The nerve-wracking format forces one to be concise and clear. The first PechaKucha I attended was hosted by a warehouse-turned-art space in New York, where the audience sat on the floor cross-legged; others took place in a chic art gallery in Washington, D.C., and a park next to a coffee shop in Thailand.

To learn more about how Sigma Pi Sigma members are getting caught up in this trend of informal science presentations, I tracked down two alums who have participated in events similar in spirit to the Secret Science Club. They graciously offered to share their stories with the Sigma Pi Sigma community. Perhaps they will inspire you to get out and share your own expertise at a bar near you!
Nerd Nite

by Julie Krugler Hollek
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Nerd Nite is a monthly event that takes place in cities across the United States. Experts, hobbyists, and enthusiasts gather to give short, informal talks covering a wide array of topics. These events take place at casual venues such as bars and coffee shops, and presenters are usually Nerd Nite patrons who have attended a few times and volunteered to share their knowledge.

When I heard that Nerd Nite Austin was putting together its first astronomy Nite, appropriately entitled “Space Jam,” I jumped at the opportunity to give a talk. At the time I was an astronomer at the University of Texas, Austin, where I studied the chemical composition of the oldest stars in the galaxy. With a friend of mine who worked in a related field, I gave a joint talk telling the story of the early universe, from the big bang to the stars that are observable today.

“If you wish to make an apple pie from scratch, you must first invent the universe,” astronomer and science popularizer Carl Sagan famously wrote. Borrowing from Carl (and the general agreeability of baked goods), we framed the talk in terms of a pie. The metaphor helped to tie my esoteric field of study to something that was understandable and relevant to the audience.

One of the most appealing aspects of participating in Nerd Nite was being able to discuss topics that, though important to my research, never make appearances in my professional talks. As I laid out the ingredients required for pie baking, I needed to talk about supernovae, which are responsible for the creation and distribution of many of the elements that make up the periodic table. I showed the crowd a supernova demonstration that I find particularly enlightening; I placed a tennis ball on top of a basketball and dropped the pair. The energy transfer that happened between the two balls upon impact with the floor was obvious, causing the tennis ball to shoot upward! This is a good illustration of the mechanics of a supernova, in which the expansion of an inner layer (the basketball) transfers momentum to an outer layer (the tennis ball), causing material to shoot outward into space. It also never fails to entertain a crowd!

Demos like these don’t often find their way into colloquia or plenary talks at conferences, but they are engaging ways to present information.

At Nerd Nite I shared knowledge with a general audience that was actually interested in science. Giving a public talk was a mutually beneficial experience; it helped me to better understand my subject matter. I had to simplify the explanations I gave of my studies by omitting the jargon and hand-waving. In fact, the slides I developed for my Nerd Nite talk were so thoughtfully put together that I was able to use a few of them in my doctoral defense.
A few years ago, I decided to put solar panels on my house in Lawrence, Kansas, and dump the excess power I generated back onto the grid. Evidently, I was the first person in Lawrence, Kansas, to enter into such a grid tie-in agreement with the regional electric company.

Staff members at the University of Kansas (KU) Natural History Museum found out about this arrangement. They invited me to give a presentation at Science on Tap, a monthly event that takes place in the evening at a popular local brewery called the Free State Brewery. In a room that holds about 60 people, I was to give a 30-minute talk about do-it-yourself solar power. Other talks at the event have covered topics ranging from the extinction of trilobites to the evolution of galaxies. Anyone can stop by, join in, and participate in the discussion.

As an experimental particle physicist at KU, I’ve had many great opportunities to get physics out to the public over the years. These experiences have helped me to understand physics at a deeper level by forcing me to figure out how to boil down the information to something that’s engaging. I’ve spoken to high school classes, and I’ve created materials for elementary-aged students, who are incredibly challenging because they are, I believe, the brightest among us. With a team of collaborators, I developed the outreach program Quarked! Adventures in the Subatomic Universe (www.quarked.org). Speaking to adult groups is the most interesting form of outreach, in my experience.

After eating dinner at Science on Tap, I was handed the microphone and had to remember how to talk without using PowerPoint slides! I explained the physical principles behind solar power and actually did some math for the audience. Then I answered questions for as long as the participants cared to ask them, about 45 minutes.

What you find at these events is that the public wants to engage with faculty members and discuss intellectually interesting ideas. The questions were insightful, and I learned something as well.

The best part about participating in this form of community engagement was getting to see, firsthand, that science actually matters to our society!